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(Working Draft)

IDENTIFYING PROBLEMS OF FOOD MARKETING IN DEVELOPING COUNTRIES

- AN AGENDA FOR RESEARCH AND TECHNICAL ASSISTANCE -

Foreign Economic Development Service
U. S. Department of Agriculture
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PREFACE

This report is part of the work undertaken by the U.S. Department of Agriculture under a special Participating Agency Services Agreement contract (PASA) with the U.S. Agency for International Development (AID) concerned with the improvement of food marketing in developing countries. Under the PASA's plan of work, a major part of the first year's effort is directed toward developing a more systematic approach to the identification of marketing problems. This draft report is concerned with that objective. The brief discussions in this report are backed by more detailed analyses of the major topics covered; both manuscripts will be finalized after field studies in selected countries and reviews by AID and host country officers.

The PASA monitor is Dr. Lawrence Witt, AID/TA/AGF. This report owes much to his assistance at critical points of development. Others at AID, notably Drs. Douglas Caton and Milo Cox, were most helpful at different times. Dr. Dana Dalrymple, USDA/FEDS, and Dr. Charles Slater, University of Colorado, made valuable contributions, particularly to the conceptual framework of this paper.

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Howard L. Steele

Introduction

This report is designed to accomplish two purposes: (1) To provide a systematic approach to the identification of marketing problems -- a way of analyzing market processes in developing countries and (2) To suggest the kinds of research and technical assistance needed to resolve marketing problems as they are likely to occur in countries at different stages of development. These suggestions are made at various points in the report, in connection with the issue analyzed.

The focus of this paper is on the marketing of food within developing countries. Included are the physical aspects of moving food from producer to consumer; the economic aspects of buying and selling; the institutions which perform marketing functions; and the institutional arrangements which link the parts together in a marketing system. Policies of government agencies and of private firms and the means for bringing about marketing reforms are also considered.

This report is based, in part, on an analysis of AID-funded studies in marketing performed in the past decade. A review of these efforts (summarized in an annotated bibliography prepared under this PASA) indicates that a preponderance of them dealt with only one aspect of a country's marketing system: often a single commodity (usually rice or wheat); a single marketing facility (a central market or a slaughter house); or a single marketing policy (usually a price incentive to increase production of one commodity). Very few studies dealt with the linkages between the individual commodity or facility and other aspects of a country's marketing system. Virtually no study considered marketing systems as evolving with country economies as they progressed to new stages of development.

Designed to provide fresh insights into the nature of marketing systems, this paper seeks to help in identifying critical marketing problems at each stage of development and the kinds of research or technical assistance which may be needed to resolve them.

I. Toward a More Systematic Approach to Identifying Marketing Problems

A systematic or orderly approach to identifying marketing problems requires: (1) a definition of what constitutes marketing; (2) a delineation of the objectives that might appropriately be set for it; and (3) some evidence of how existent marketing activities are not meeting those objectives.

A simple definition of marketing would include all the activities involved in the movement of commodities from the producer to the consumer. Included also are all the exchange activities of buying and selling, all the physical activities designed to give the commodity increased time, place, and form utility, and all the auxiliary activities such as financing, risk bearing, and disseminating information to participants in the marketing process. The objective(s) may be stated in different ways; e.g., improving income distribution between rural and urban or within the rural sector; accelerating or sustaining economic growth; or assuring better diets for more people. Within any of these objectives there might be a number of subgoals. Objectives and subgoals will vary between countries and within countries over time. If we set as an objective of the marketing system a reasonable balance between supply and demand for a major food crop such as rice or wheat, then evidence of malfunctioning might be gluts in some markets and shortages in other markets within the country.

In order to analyze marketing problems it is useful to conceptualize marketing activities as constituting a functioning system. A system implies that the activities are linked together in some meaningful way, that there are interactions among them, and that inputs into the system will be associated with some kinds of outputs. This conceptualization has the value of guiding an observer of marketing processes in a developing country into seeing how each activity is associated with others and how actions taken to affect one activity may affect some that have gone before or are likely to follow afterward within the system. The concept of a marketing system also suggests that functions take place internally and that there may be forces external to the system which influence its functioning. Hence, there are possibilities for identifying points of leverage which may be useful for moving or reforming the system.

The concept of a marketing system is applicable to a single commodity or to an array of foods that are consumed in the country, a single region or a city, or a country as a whole. A system for a single commodity may begin with the production process, commodity uses by the producer, its flow through different intermediaries, and processes until it reaches the final consumer. A system to describe the entire flow of foods from producers to consumers in an urban area would be much more complex. But movements of the major commodity groups may be

charted to indicate special facets of the marketing system such as places where loss and spoilage occur, or places where the commodities may be modified to make them more nutritious.

A systematic approach to marketing sub-sector analysis includes the following steps:

(1) Define the objectives; i.e., what should the marketing system seek to achieve and what groups in the population are to be served?

(2) Identify the system(s) relevant to achieving the objectives or overall goals; e.g., the entire agri-business system or the marketing portion of it or the rice marketing sub-system.

(3) Determine the components of the system; e.g., a price stabilization agency within the rice commodity system; a market information network.

(4) Define the environment within which the systems to be studied must operate, including the factors which restrict and condition the functioning of the system. The environment includes political and economic, social and cultural forces as well as the general levels of economic activity, managerial capability, and technology.

(5) Define the output of the system -- the measures of performance of the system, involving such elements as the amount of product moved through commercial channels, the number employed, and the marketing services provided. Performance, discussed on pages 25 to 29, includes the efficiency with which resources are used in providing marketing functions and the effectiveness with which the system meets the objectives set for it.

(6) Determine, conceptually, the types of interrelationships which seem likely to exist among the parts of the system; e.g., higher prices are likely to increase supplies of a commodity; lower prices are likely to increase demand for it.

(7) Delineate alternative courses of action; these should be feasible alternatives in terms of the operating environment, the resources available, and the time period in which target outputs are to be reached.

(8) Attempt to evaluate the possible consequences of alternative actions in terms of the output and performance of the system. It may not be possible to do this with only a conceptual idea of a system, but the effort will at least bring out what is known and not known. It will suggest something about needs for information and additional research.

In practice, there is usually too little time and too little information for rigorously following each of the above steps in making country sub-sector marketing analyses. Fortunately, in many countries analyses have already been made by mission people and their national counterparts, and the complete sub-sector analysis can begin somewhere within the eight steps outlined above. However, the steps provide a useful check list of considerations that should enter into the analyses.

For example, in South Vietnam, rice is a principal component of the country's economy and of the diets for a large proportion of the population. If analysis of the rice marketing system discloses that Saigon has ample supplies at moderate prices, but the cities to the north are chronically short, we may focus our analysis on the causes of the problem and possible means for moving more rice into those areas. This concern may be expressed in terms of an objective; namely, to have the marketing system provide a better balance of rice supplies as between Saigon and the northern cities. In giving our analysis this focus, we recognize two different sets of facts: (1) Looking into the problem of rice marketing for the urban areas in South Vietnam's northern provinces cannot be divorced from the overall production-distribution system for rice throughout the country (and from the linkages to U.S. supplies and local slippages); (2) Focusing on rice and resolving problems of availability in the selected cities leaves many other marketing problems unmet; e.g., supplies to some rural communities, protein levels for the urban poor around Saigon, etc.

Marketing systems are not static. They evolve over time and are closely associated with overall conditions in a country and with its stage of development. Marketing systems are an integral part of a country's demographic, geographic, and technological condition; the system reflects the political/economic and social/cultural forces within the country (and in turn influences them). Hence a first step in analyzing marketing systems is to relate them to their environment.

The underlying premise of this approach is that there is a pattern to the development of marketing systems. These systems evolve as part of the overall socio-economic development of a country. The "growing pains" which accompany changes in marketing systems may be diagnosed by knowing what to look for. By treating these ailments as part of an evolutionary process with certain antecedents and likely aftermaths, one can help in the healthy development of marketing systems rather than impede the progress.

At each stage of development of a marketing system there are characteristic marketing activities, and certain kinds of problems are likely to emerge as the system seeks to respond to changing production or consumption factors or to different forces in the environment. This

suggests that one may make a first delineation of marketing problems by a close analysis of the marketing system's stage of development.

A. Factors Affecting the Evolution of Marketing Systems and the Nature of Food Marketing Problems

There are wide differences in marketing systems as they operate in different countries. This may be attributed to the fact that marketing is an integral part of the larger agricultural sector and of the nation's overall economic system. A modern marketing system is neither feasible nor useful where agriculture is largely subsistence and where the overall economy is operating at a low-level of technology. Similarly, a modern farm production system cannot be sustained without a marketing system capable of adequately supplying needed inputs and taking increased output.

Among the countries referred to as "less developed countries" (LDCs) the differences that may affect food marketing systems include, at least, the following:

- The stage of technology in its agricultural production system and in its overall economy; the rate of agricultural growth.

- How nearly the country is able to meet its food needs from domestic production, the extent to which a very few crops make up the bulk of the people's food supply, and the extent to which the country is dependent on external food aid.

- The extent of urbanization -- the proportion of the people who are dependent on a commercial marketing system.

- The level of income and distribution of income enjoyed by the people, and the elasticities of demand for food as incomes rise.

- The size of the country, the population distribution within it, and the rate of population growth.

- The socio-economic structure of the country and its politico-economic ideology; the environment for private investment and the ease of entry into marketing enterprises.

If these are among the principal variables influencing marketing systems, and since several will be interrelated, we may group countries into a number of general categories for purposes of identifying likely needs for improving marketing systems. Three categories of developing countries might be identified for purposes of analysis -- even though the categories might run together and any given country will differ with others in the same category. A thumbnail description of characteristics in agricultural development, in rural-urban population distribution, and in other key variables will help in this categorization:

1. Countries with traditional subsistence agriculture -- population largely rural: Characteristics of this group are: Often 65 percent or more of the people make their livelihood from farming activities. Productivity and incomes are low. A two-track system of agriculture exists -- the commercial export crops and the subsistence food crops. There is an absence of new technology and of government policies supporting agricultural development in the food crops. Change is taking place slowly in agricultural production processes, little is marketed and most of the food crops sold move short distances. A few basic grains, root crops or pulses make up the bulk of the peoples' diets. Marketing systems and facilities expand more or less automatically to meet limited expansion of marketable food supplies. A single city within countries at this stage of development may have elements of a more advanced marketing system. [Country examples: Indonesia, Paraguay, Ethiopia.]

2. Countries with transitional-- production-oriented agriculture: Characteristics of this group are: Often urban populations are as large as rural. Production of food crops is a priority sector in development plans. Commercial agriculture in food crops is growing; public and private capital is going into farming and agribusinesses to support it. Temporary surpluses may appear for some food crops; marketing and distribution constraints emerge. With advances of income and shifts in population, more food crops are moving greater distances to market, taxing facilities and exchange arrangements. Underlying demographic differences and economic ideology will influence the way marketing systems develop. [Country examples: West Pakistan, Kenya, Guatemala.]

3. Countries with market-oriented agriculture --urban population dominant: Characteristics of this group: urban populations may be 60 percent and more; commercial agriculture becomes the dominant form in food crops as well as in traditional export commodities. Problems of resource allocations to and within the agricultural sector emerge; producers and governments face new problems of balancing supply and demand. Problems of diversification and the development of new markets have high priority. Problems of food supply begin to shift from issues of production to distribution, from commodities to nutrition. Improvements in incomes and technology continue and become more general throughout the economy. More food is processed and packaged; a food industry emerges keyed to consumer preferences for new food products. A national marketing system may be possible. Underlying demographic differences and economic policies continue to influence the way marketing systems develop. [Country examples: Taiwan, Costa Rica, Southern Brazil, Venezuela.]

The following diagram is designed to portray the evolution of marketing systems in developing countries.

EVOLUTION OF MARKETING SYSTEMS
With Economic Growth of the Agricultural Sector

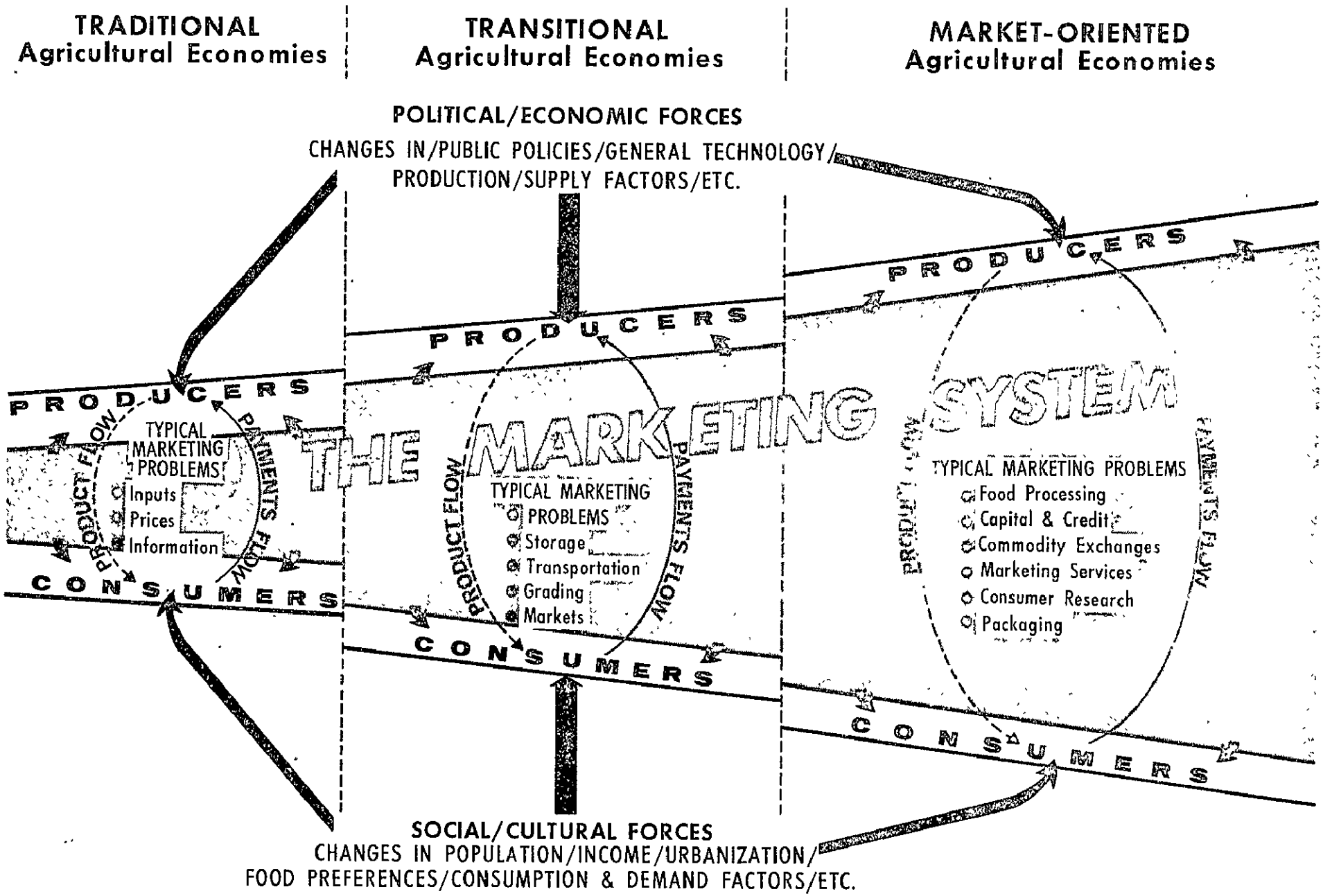

DIAGRAM ON STAGES OF DEVELOPMENT IN MARKETING SYSTEMS

A number of elements in the diagram require explanation in order to better understand the theory of market development and how this theory may serve to identify emerging marketing problems.

The diagram portrays three stages in a continuum. The three stages are identified as traditional agricultural economies, transitional agricultural economies, and market-oriented agricultural economies. These stages may represent countries, or regions within a country, or even individual commodities. In each case there is a development process -- beginning with traditional subsistence production activities through the transformation to more modern agricultural economies, culminating in the third state of market orientation.

The size of the stages becomes larger as the marketing system evolves. The increased size is designed to suggest the growing number of persons and commodities (e.g., more perishables) that are likely to be involved in commercial marketing as the system evolves. The size also suggests the growing importance of commercial marketing within the agricultural system. Greater size also implies growing complexity of marketing activities which make up the marketing systems. Greater specialization among marketing activities and the individuals and institutions that perform them is a factor making for complexity and the need for better coordination within the system.

A great many forces are at work in bringing about changes in marketing systems; at the same time, the marketing system exercises a reciprocal influence on these forces. Two sets of forces are shown; one above the stages and one below, with market development evolving in line with these forces, and in turn, influencing them.

Political/economic forces: These forces include such factors as the political and economic ideology of the country with the implications for central planning of the economy vs. encouragement of private enterprises within a relatively free market. Also included here would be the influence of a purposive political-administrative bureaucracy within the economy vs. a passive government system concerned largely with continuing the status quo. These forces may act directly on the marketing system or on the other factors noted below.

Production factors: The state of production technology, the structure of the agricultural production system, and the amount of production made available for the market influences the development of the marketing system. The marketing system will also influence the production function.

Consumer demand: We include here not only market demand and the factors which affect it, such as population and income, but also non-market requirements for food and the physical and economic factors affecting non-commercial food distribution.

Social/cultural forces: These would include such factors as population growth/income distribution, the kinds of people who serve as middlemen and traders in the economy, and the patterns of consumption (which kinds of taboos, status or myths surround the consumption of different kinds of food). These forces may affect the marketing system directly or through the other factors noted.

The diagram suggests a system of interacting elements. At each stage of development there are a number of characteristic aspects of the marketing process. The marketing functions, e.g., buying and selling, transportation, storing, etc., remain substantially the same in each stage, but there are qualitative and quantitative changes in how these functions are carried on. At the same time, each stage of development faces a number of critical problems if the system is to satisfy the needs in the society at that stage of development and is to evolve into a higher level of marketing performance.

Marketing problems arise in each stage of development. For each problem a number of hypotheses may be suggested as the reason for the problem occuring. An examination of the specific country situation is then called for to determine which of the likely hypotheses is most relevant for improvement in marketing processes.

For example, a major problem in the first stage of development is likely to be getting more products to the market. Among the hypotheses that would need to be investigated to determine how this problem might best be tackled are the following:

Lack of incentive for farmers: That is, the price that the farmer receives for a product does not encourage increased production. He may lack information as to what price he can get for his product in markets available to him; the price set by a government agency may not be the price he gets from the person to whom he delivers his product; he might not have confidence in the market's ability to absorb the increased product, or in the government's purchasing program.

Inadequate physical facilities: Transportation may be lacking to move increased production from the farm to the purchaser. Mills may be inadequate to deal with increased production as rapidly as it is brought off the field, etc.

Legal/political constraints: There may be limits on the free movement of commodities from a production area to a potential marketing area. There may be costs or licenses connected with the move which inhibit products coming to market, etc.

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On the following page, Figure 2 represents a "cross-section" of a marketing system as it might appear at a given stage of development. The core of marketing functions is shown, together with the flows of product and of payment. As indicated, the amount of product moving to market is affected by the amount retained by the producer for his own uses. Forces exogenous to the marketing system are shown to have an influence on it and on specific marketing functions.

AGRICULTURAL SECTOR AND MARKETING SYSTEM CROSS SECTION

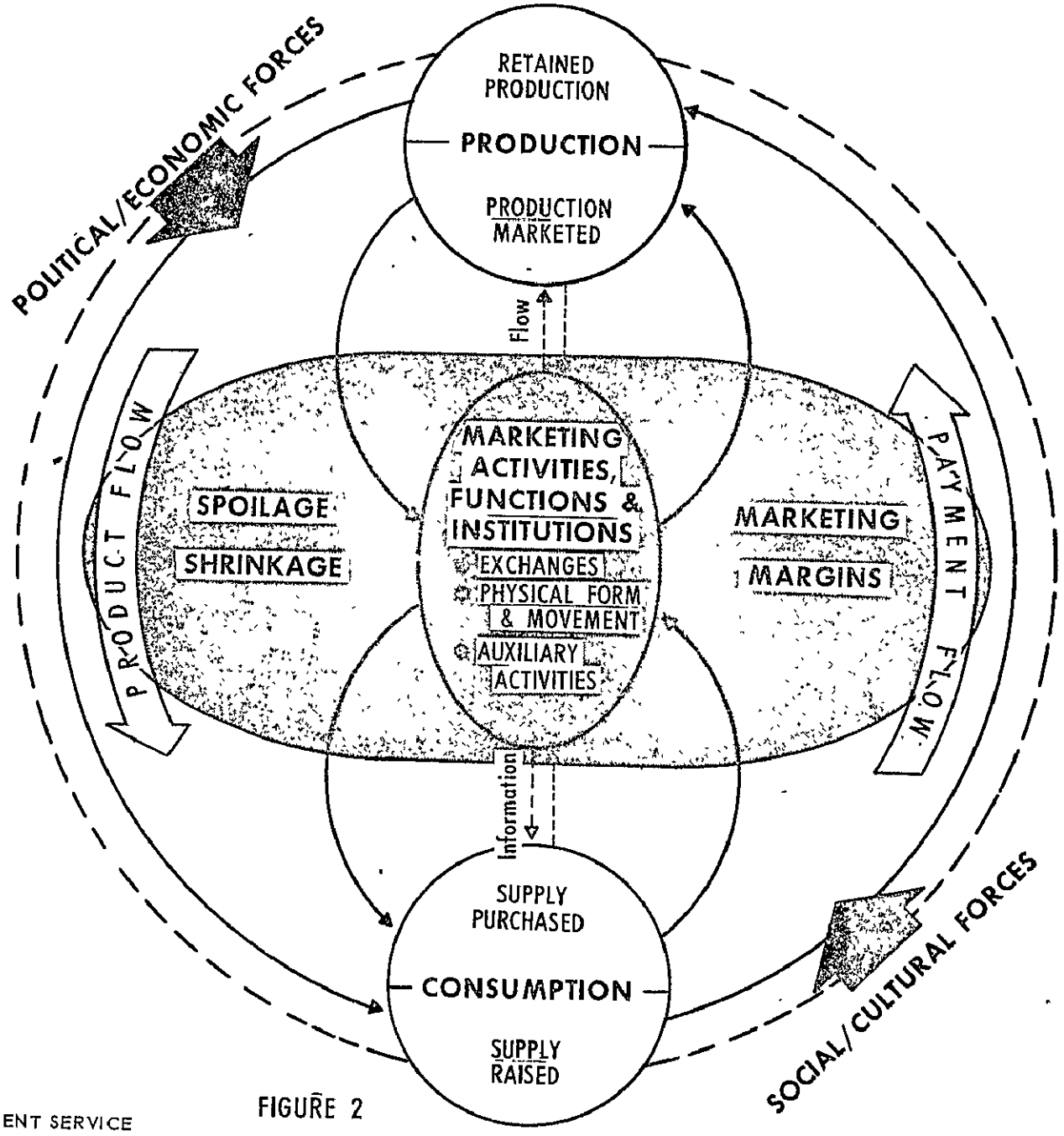

FIGURE 2

U.S. DEPARTMENT OF AGRICULTURE
NEG. BN 37948 FOREIGN ECONOMIC DEVELOPMENT SERVICE

The "core" of marketing functions identified in the cross-section diagram includes the following:

1. Exchange Functions

   - Buying
   - Selling
   - Pricing

2. Physical Functions

   - Transportation and handling
   - Storage
   - Processing and packaging
   - Grading and standardizing

3. Facilitating Functions

   - Financing and risk bearing
   - Marketing information and news
   - Demand creation
   - Research

While most of the functions take place at any stage of development they are performed differently as the system evolves. The differences are quantitative and qualitative; i.e., more product moves through the system and the kinds of commodities marketed will also differ.

B. Marketing Problems in Traditional Subsistence Economies

In these economies, most of the people earn their livelihood from the land; they eat what they produce and have little left over to market. Changes in the production system are taking place slowly and marketing services, practices, and facilities are likely to accommodate themselves to needs as they emerge. 1/

In many countries or regions thus characterized, the distance between producer and consumer is small, physically and culturally. Because little is transported to market, the means of conveyance and the condition of the roads are not overly important. Time may not be highly valued, particularly when not committed to the demands of a commodity's production cycle.

1/ Studies on subsistence agriculture typically omit references to a marketing function; see, e.g., T. W. Schultz, Transforming Traditional Agriculture, Yale University Press, 1964, and C. Clark and M. R. Haswell, The Economies of Subsistence Agriculture, Macmillan and Co., Ltd., 1964.

Transactions in the market are often made directly, as between the farmer's wife sitting in the market-place and another farmer's wife or a village housekeeper. While differences over price and quality of product will be discussed by both parties to the transaction for some time, this is more in the nature of a game played out by each than of basic differences, lack of confidence, or outright hostility. The product can be seen, smelled, weighed and tasted, so that the chances of error, misunderstanding, or malfeasance are minimized.

Moreover, there is a limited variety of commodities brought to market and an equally limited variety making up the bulk of the consumers' diets. Hence, there is a familiarity with the products and variations of size, appearance, and taste may be recognized as being within an acceptable range. The range of acceptance is likely to be broad because expectations are not high. For these reasons, regulations on the quality of commodities entering into commerce are not a critical factor in product movement or consumption. For similar reasons, the demand for other marketing services is not strong. The producer may, at time of harvest, wish there were more ample storage facilities on his land or in the village so that more of his production might be held off the market and preserved for a longer period of time. And, as production increases, this may be one of the first needs the individual farmer or a group of them will seek to satisfy.

Among the issues that are raised by traditional agricultural societies is whether or not marketing reforms lead agricultural modernization or follow after advances in production technology. Most writers on agricultural development have suggested, implicitly or explicitly, that higher-yield production is the starting point for agricultural development. Until farmers produce in excess of their family needs, the argument goes, they have little to market and hence no market improvements are needed. This argument, however, may be reversed: unless the producer knows he will have an adequate market and a system which assures him of reasonable market prices, he has no incentive to increase his production beyond the needs of his immediate (or extended) family.

If this latter argument has validity, then among the first steps for agricultural growth is an assessment of the market for increased production of the commodities of major concern in the particular country. This suggests, for example, that in countries like Indonesia, a starting point for marketing reforms is rice, the dominant commodity in its economy. What can be done to assure that demand and price will be adequate to reward higher production (and the use of modern production technology)? How can demand be gauged, given price and income elasticities (and possibilities for non-commercial usage), to assure that there will be economic use of resources and uneconomic surpluses will be avoided? And, in addition to an assessment of demand, how efficiently is the marketing system for rice functioning, in terms of the objectives and interests involved?

C. Marketing Problems in Transitional Agricultural Economies

The rapid growth of urban populations in developing countries is occasioned by many factors, including: absence of economic opportunities in many rural areas; anticipated attractions of urban living; more health, education and welfare services available, etc. Estimates are that shanty suburban populations are growing at the rate of 15 percent annually in many African and South American countries and most analysts do not see signs of slowing down.2/ Indeed, if increased production of basic food crops on larger commercial farms makes more small farms marginal, one can anticipate a continued swelling of urban populations. In short; increasing urbanization will continue to force more marketings over greater distances for many LDCs.

Of course, the process of transition takes place differently in different countries, owing to their individual geographic, demographic and economic situations. Perhaps one can distinguish between countries in this transitional stage as between those which are largely village and atomistic in their marketing patterns (India) and those with distinctive city and rural populations with dual marketing systems (West Pakistan). In the latter case, somewhat modern marketing systems may come into being to serve the cities, while more traditional systems continue to serve the rural villages and small towns. Similarly, as development proceeds to the market-oriented stage of agriculture with urban populations dominant, it may be useful to distinguish between countries: one group in which there is a single large city with dual marketing systems continuing (Venezuela) and a second group of countries in which there are a number of cities each with its own, largely autonomous "food shed" marketing system (Colombia).

With a larger proportion of a country's food crops needing to go to urban markets and with more production available for the commercial market, certain kinds of problems, characteristic to the stage of development, become evident. A general expansion of the marketing system is needed requiring new policies, and more facilities and services.

. Policy considerations

Policies of LDC governments contribute to changes in marketing and are also a reaction to changes that take place in the marketing system. In either event, public policies need to be closely associated with the modifications in marketing systems as they evolve. For example, price policies at an early stage of development may be largely concerned with providing production incentives to obtain increased output to meet domestic demand. At a later stage, price policies need to be flexibly geared to maintaining a reasonable balance between the amount that may be produced and effective demand. The policy purpose is not then to increase production per se but to

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2/ Carl Eicher et al., "Employment Generation in African Agriculture," Research Report #9, Michigan State University's Institute of International Agriculture.

balance it against demand. Again, government policies on agricultural credit may, at one stage, give first priority to facilitating the purchase of farm production inputs, at a later stage, to commodity stabilization programs and, at a third stage, to the financing of marketing cooperatives or other private marketing enterprises.

. Facilities

Inadequate facilities are among the principal problems in the transitional period. Transportation is often a critical bottleneck. The magnitude of the task of transporting agricultural commodities grows more rapidly than production itself. When a significant portion of food needs among food deficit countries is met by imports from food surplus countries, commodities are unloaded from ships and moved directly to the large coastal cities where need is usually greatest. Little internal transport is required to accomplish this. When a larger portion of the food crops needed in these countries is being met by their own production, a more extensive transportation system needs to be built to bring commodities from the principal producing areas to the cities which are the principal consumption areas. [A similar (but reverse) system is needed to move manufactured inputs for farms from the cities where they are produced to the farms where needed as part of the high-yield technology.]

Animal transport no longer suffices when commercial farmers have greater quantities to sell and need to seek larger markets at greater distances. Hence, the need is for roads and transportation systems that can move more products, more rapidly, and at low cost. Greater speed and lower per-ton-mile costs are vital since more commodities move greater distances. Transportation is a significant factor in the spread between prices the producer gets and the consumer pays for farm products. If the transport system is inadequate and contributes to increased spoilage, consumer and producer prices are likely to reflect the losses incurred.

Changes taking place in the organization of agriculture increase the need for better transport. Diversification of food crop production away from cereals and toward more perishables requires better roads to move them more quickly and with less transit loss. All year cropping also increase the value of and the need for better roads. Roads that become impassable a portion of the year inhibit growing crops that must move to market during that part of the year.

Motor trucks are becoming the primary means of transporting many agricultural commodities. Duties on the import of used trucks, spare parts, and on fuel for trucks, might better reflect this agricultural dependence. Efficient use of motor trucks depends upon feeder roads from farm areas making connections with well surfaced roads to major cities. Increased commercial farming and urbanization of populations place greater importance on village to city roads. The highways to cities and ports need to be constructed for high speeds and heavy loads, and maintained in good repair to hold down costs of commodity transport.

Among the issues raised by requirements for better transportation is which commodities or growing areas or consumer centers should get highest priority in a planned network of roads. How can policies on imports of vehicles and parts contribute to the maintenance of an efficient transport system? How are policies and priorities for the transportation of agricultural commodities related to those of other sectors in the economy? And, since transportation networks require considerable capital investment, how might such requirements, connected with domestic food movements, be weighed against capital requirements for such related facilities as ports, central markets, etc.?

Storage is almost as pervasive an issue as transportation when commercial production of crops increases and significant amounts of grains and/or perishables are produced above immediate market requirements. Among the critical issues in attempting to meet storage requirements are:

First, which commodities should have priority access to storage? In many countries one or two food grains are involved and the storage needs may then be more clearly indicated. But the implications for producers and distributors (as well as consumers) need to be recognized if the provision of storage for one commodity precludes the building of storage for another.

A second issue is that of locating facilities. In countries where imported food grains were an important part of their supply and demand situation, modern storage facilities were often built at port cities, thereby facilitating off loading and feeding of needy populations. As countries produce more of their own crops, it may be more desirable to have storage facilities close to the production areas. This is particularly important where the storage is associated with cleaning, grading, and milling operations. But the location of storage facilities may also determine which producing or consuming regions of a country are likely to be favored with more stable supplies and prices. And, at times, location may favor large producers over small producers (or vice versa).

A third issue pertains to ownership of the storage facilities: government agency, private trader, or farmer organization. Ownership of storage facilities provides a measure of control over the price the farmer receives. Private traders may influence actual price by their interpretation of a commodity's quality (against government standards) so that even where there are minimum prices, the farmer may get something less. Traders may also influence prices paid by limiting how much of a commodity they will accept for storage or the terms under which acceptance is made. Ownership by government agencies places such power in the hands of those representing the agency. It also requires use of public funds for building and operating facilities. Ownership by farmer groups often means control by larger producers and may aggravate differences between them and the small farmer. Capital and credit requirements for building and operation need also be taken into account in policies to give producers more control.

. Service Needs

The demand for more services in connection with commodity marketing arises not only from increased volume but also from the altered relationships among producers, distributors, and consumers. In many instances the buying and selling will be done by intermediaries and the personal knowledge, understanding, and trust that could be anticipated in face-to-face transactions will be absent.

The need for better market news and information about prices and commodity flows increases as crops move greater distances and may be shipped to alternative urban markets. Informal information systems no longer suffice. At the same time, market news, to be meaningful, requires widely known and accepted standards of quality and of containers for commodities being marketed. Such standards need not only be promulgated but also policed to assure conformance and continuing confidence by all parties to the transactions. At issue then is not only the rules and regulations laid down but how widely they are known and adhered to.

The amount and kind of marketing services demanded as agriculture becomes more commercial and populations more urban will vary with the variety of commodities coming to market, the income levels of the population, and the extent to which the population is concentrated in one or more cities. Each commodity requires its own complex of services to facilitate transactions and movements. With higher incomes, people are likely to spend more on marketing services to increase the convenience or quality of the commodity. More wheat will be wanted as bread, more milk will be bought in pasteurized form, and more fruits and vegetables will be eaten in lieu of food grains; these changes involve more handling in the marketing process.

A full array of marketing services and an abundance of marketing facilities are not likely to be needed in the initial stages when countries move from a largely subsistence to a largely commercial agriculture. What is needed are incremental additions to existing services and facilities. These additions should be designed to avoid bottlenecks in the changeover and to facilitate the growth of a commercial, consumer-oriented agriculture. Hence, the question needs to be asked as to what kinds and forms of services add to the efficiency of the marketing system in the period of transition from traditional to commercial agriculture.

D. Marketing Problems in Market-Oriented Agricultural Economies

At some point in the development of a country, there is a shift associated with changes in the distribution of population from rural to urban areas that carries with it many related alterations in marketing institutions, the kinds and scales of marketing enterprises, and the role of government as facilitator and regulator of marketing processes. Marketing analysts should note such signs and thereafter

devote more attention to marketing from a consumer point-of-view.[3/] Analysts need not pinpoint the time of such a shift; it is not susceptible of close identification nor will it be the same for all countries. But the importance is one of concept and condition rather than of timing.

One of the important differences that occur is that the interdependence between rural and urban economic activities becomes more evident and the interconnection may be visualized more clearly as a system of transfers[4/] or movements of goods, services, and capital resources. Transfers become more evident because of the greater specialization of families in urban and rural areas as both production and consumption units. The interdependence of these varied units and the need for coordinating mechanisms bring about profound changes in marketing systems.

As incomes rise and technology advances, the change in marketing that takes place is both a qualitative and a quantitative difference in per capita consumption of food. A much larger proportion of the food that will be eaten goes through one or more stages of processing. A large proportion is handled (in economic as well as physical terms) by more people representing a wider array of institutions (some only tangently associated with the product being marketed). Of the foodstuffs consumed, a larger portion is likely to be of animal derivation: meat and dairy products, poultry, and eggs. And the handling of these kinds of foods involves more marketing services and costs than grains.

The part played by the traditional middlemen also changes: more of the transportation function will be performed by truckers associated with one or another integrated operation, less by individual entrepreneurs; a larger portion of the purchases from farmers will be done by wholesalers or processors who reach back into as well as forward in the marketing system. Issues arise concerning the kinds of marketing system wanted and what rules or regulations are needed to bring it about. Other issues occur in terms of the impact on individual farmers and consumers of the larger, more integrated intermediary enterprises.

The organizational changes, in turn, influence farming practices as well as consumer shopping and consumption patterns. On the supply side, production needs to be geared to processing schedules and processing equipment, as well as to commercial tolerances of grades and standards. The security of a market contract has an opposite side in the obligation to deliver quantities and qualities called for. Issues involved include those concerned with size of the farming operation and of the ability of small farmers to meet commercial requirements and to compete on a cost basis. On the consumer side, there is the likelihood of better quality and greater variety in the foods available. On the other hand,

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3/ Robert Stevens, Elasticity of Food Consumption Associated with Changes in Income in Developing Countries, USDA, Foreign Agricultural Economics Report #23, 1965.

4/ Milo Cox, Key Problem Areas - Agriculture, AID/TA staff paper, November 1970.

there is a dependence on the integrity of the processor and merchandiser and the regulatory power of government because the consumer has lost personal touch with much of the food stuffs that are purchased.

The growth of marketing firms themselves are an important force for reciprocal change affecting relations with producers and consumers. The backward vertical integration, or market coordination activities of discount supermarkets or other large consumer-oriented marketing firms or cooperatives, creates improvements in dependability of markets. The reduction of risks associated with market participation by producers dealing with these larger institutions can be a critically important force in the development of modern marketing institutions.

Additional capital is one of the forces of change that modify traditional methods of doing business. The scale of storage, handling, and processing of cereals and other staples occurs with changes in the technology due to capital improvement. But, capital improvements inducing a change in technology at one point in the channel for cereals and staples may be ineffective unless the entire channel is improved and the flow of product smoothed from farm to consumer.

It is not clear whether the changes in farming methods are the lead factors, or changes in the technology surrounding the agricultural system, or changes in the marketing institutions brought on by the imperatives of urbanization and related factors. Students of marketing processes feel that the distribution channels do not readily respond to changes in quantity that may be available for the channels.[5/] Traditional methods and vested interests inhibit a rapid accommodation. It is usually the specialized producer or distributor (or groups of them) who sees the need and reaches through the system to simplify the channels and reduce market risks for all involved. This thesis borrows from the concept of the "change agent," the individual or institution that can bring together the elements into a new combination with properties more conducive to efficient marketing.

The changes suggested will have an impact on the kinds of government policies, and services, and the kind and scale of facilities that will be required. On the policy-side, for example, consumer orientation of the marketing system will give rise to additional regulations governing standards, not only to facilitate trade, but also to protect the consumer from misrepresentation and malpractices. Producer organizations are likely to become more involved in and sophisticated about consumer and retailer preferences and will aid their members to adjust production accordingly.

5/ H. R. Collins and R. H. Holton, "Programming Changes in Marketing in Planned Economic Growth," Agriculture in Economic Development, ed. by Carl Eicher and Lawrence Witt, McGraw-Hill, 1964.

Consumers are an important element in the changing demand for marketing services. Although the proportion of income spent on food declines as incomes rise, there is still increased demand for marketing services of all kinds. An increasing portion of the food bill is taken up by the cost of providing these services. A critical issue in developing countries, where the cost of food is the principal part of the cost-of-living, is what marketing services may be added without increasing the price for food. And a distinction needs to be made between services which are added to meet basic consumer needs of place and form utility and those which are designed largely to differentiate one producer's product from another. There is need to approximate costs of specific marketing services and to measure their likely impact on commodity prices for consumers as well as producers.

In some developing countries a principal city or two may dominate the market flows of commodities and processed foods. In these circumstances, as in earlier stages of development, two marketing systems may go on side by side; one for the large metropolitan areas and another for the villages and small towns. The communications systems are then likely to be particularly important to producer, consumer, and distributor to assure close balance in food needs for the different markets. If there are four, five, or more large cities, the marketing system becomes even more complex and coordinating mechanisms need to be well tuned. A national market may be organized for a few basic food grains such as rice or wheat, while for other commodities the market may remain regional or local.

One of the activities that needs to be undertaken as marketing systems undergo substantial change is research on the marketing process and on specific marketing functions. Research is necessary for policy makers in government agencies and in private enterprises, and it is necessary to improve the utility of new marketing facilities and enhance the value of marketing services.

A substantial part of the kind of research needed would probably have to be performed by government agencies to facilitate market reforms and to improve the effectiveness of marketing systems. Little of this kind of research has been done in developing countries and the work that has been carried on has been largely for traditional export crops like coffee and bananas. As food crops acquire commercial importance and marketing emerges as a limiting factor for sustained growth, the need for research to meet marketing problems becomes more evident. The paucity of people trained to do research on marketing problems suggests that technical assistance in this area should have high priority.

E. Delineating and Defining Marketing Problems

Each stage of development is characterized by certain kinds of rural-urban transfers and the emergence of certain kinds of marketing problems. There are often 'tell-tale' evidences when a particular function is not being performed well. For example, storage: experiences in many regions indicate the amount of spoilage likely to occur at various points in the marketing channels and with different kinds of facilities. Excessive price fluctuations for food grains during the period between harvests and from one region to another may be traced to inadequate storage capacity, improper storage location, or related factors. Some of these relate to operational or technical efficiency, while others relate to pricing or economic efficiency. Hence, there are criteria by which the storage function may be appraised.

Likely marketing problems at different stages of development in marketing systems are suggested in Table 1 on page 22. Areas of research and technical assistance that may be necessary for public policies, services and facilities in connection with the marketing problems are also shown on Table 1.

After a preliminary identification of marketing problems and probable technical assistance and research needs, a further delineation is called for. The process of further defining marketing problems and setting assistance priorities requires an exploration along two lines: (1) the linkages of the particular problem with other activities in the marketing system; and (2) the extent of "readiness" among the individuals and institutions principally involved in the marketing changes or reforms required.

For example, if a preliminary analysis indicates that storage of perishables is a high priority problem, the kinds of linkages that are to be explored in reviewing assistance requested may follow the lines suggested in Figure 3, page 23. Specific marketing activities are indicated in boxes, and linkages to public policies, institutional changes, personnel capability, and research are noted.

A check list may be prepared in which each of these factors are evaluated as supportive of the proposed improvements in the storage of perishables or are likely to obstruct the changes. There may be situations in which action on a problem of somewhat lesser priority may be undertaken because the other needed elements are in place for it. On the other hand, action on a high priority problem may need to be postponed until the state of "readiness" is better.

The outline shown in Table 2 is a type of check list useful in evaluating marketing system linkages and priorities described above. Note that on the left hand side of the table an evaluation has been made of the priority marketing functions shown in Figure 3, and those linkages deemed to be adequate for the current stage of development have been identified. On the right hand side are listed the inadequate linkages requiring action. Where linkages are inadequate, the question needs to be raised as to whether the individuals and institutions involved are ready to take necessary remedial actions.

TABLE I

IDENTIFYING FOOD MARKETING PROBLEMS IN DEVELOPING COUNTRIES

COUNTRY CHARACTERISTICS AFFECTING FOOD MARKETING SYSTEMS	NATURE OF URBAN-RURAL TRANSFERS	SOME LIKELY MARKETING PROBLEMS	PROBABLE TECHNICAL ASSISTANCE AND RESEARCH NEEDS IN MARKETING: TYPES OF POLICIES	TYPES OF FACILITIES	TYPES OF SERVICES
I. Traditional agricultural societies - population largely rural Slow change in agricultural production process	Few interactions, little interdependence. Transfers take place largely in connection with export crops.	Providing incentives to increase amount of crops for marketing. . assured distribution of inputs . assured prices on products . assured markets	Price support policies, geared to price of inputs Assured purchases of outputs	Storage facilities Roads and Transportation Rural assembly sites	Grades and standards for farm inputs and products Low cost credit more widely available for inputs
II. Transitional agricultural economics - production orientation a. Village - Atomistic b. Urban-rural population - dual marketing systems Food crops get higher priority. Agr. development spotty and variable	Commercial inputs - seeds/fertilizers/pesticides/machinery go for food crops mostly to larger farmers.	Product losses in marketing Quality standards for agricultural inputs and outputs Storage to meet expanded production Transport, farm-to-market roads and conveyances Market information	Price stabilization policies geared to balancing supply/demand Policies to facilitate imports of marketing "hardware" Policies to facilitate entrance of entrepreneurs in the marketing system	Storage network Transportation network Urban central markets	Grades and standards - market news/information Research on marketing processes and product protection Legal/administrative arrangements e.g. warehouse bonding, firm licensing, etc. Low cost credit and other aids for marketing cooperatives, etc.
III. Commercial-market oriented agricultural systems - urban populations dominant a. A principal city - dual marketing systems b. Many cities - national marketing system More general and more rapid change in economic development.	Commercial inputs - wider variety of types and services for more diverse crops Marketing of food crops, greater varieties/quantities/distances More transfer of capital into agriculture and labor out of agriculture	Capital and credit availability for marketing improvements Developing markets for diverse agriculture Developing labor-intensive, economic marketing services Providing more and better food for those on edge of market economy Food technology	Import/export policies to facilitate market modernization Fiscal policies to increase capital flow to marketing enterprises Food distribution policies/programs for urban poor	Laboratories for food technology research Controlled temperature warehouse facilities Wholesale, retail facilities including super-market operations	Consumer information Market development research Nutrition research & regulations Research on marketing structure, resource flows, employment in marketing, etc.

MARKETING SYSTEM IMPROVEMENTS
Problem Linkage Example

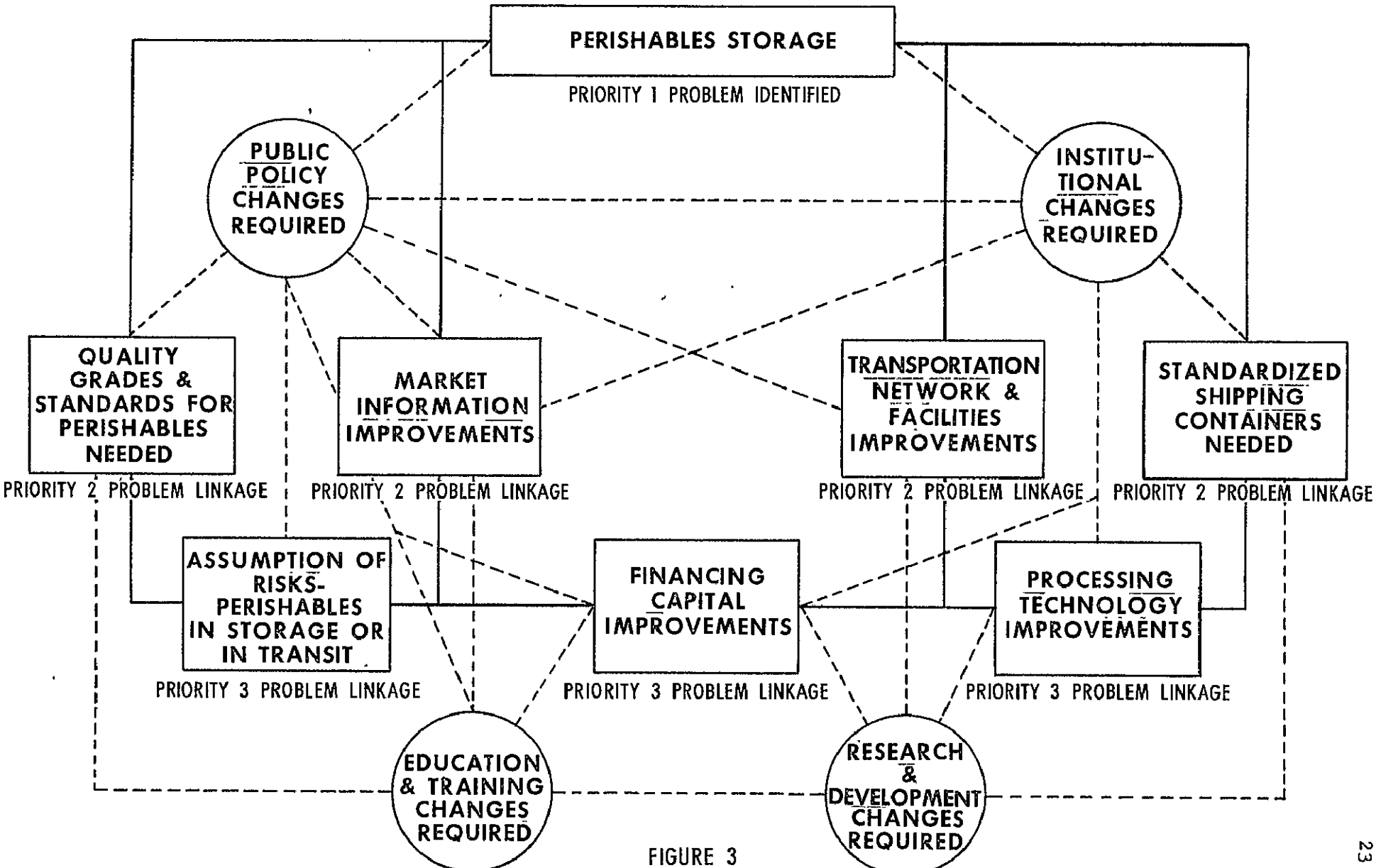
PERISHABLES STORAGE
PRIORITY 1 PROBLEM IDENTIFIED
PUBLIC POLICY CHANGES REQUIRED
INSTITU-TIONAL CHANGES REQUIRED
QUALITY GRADES & STANDARDS FOR PERISHABLES NEEDED
PRIORITY 2 PROBLEM LINKAGE
MARKET INFORMATION IMPROVEMENTS
PRIORITY 2 PROBLEM LINKAGE
TRANSPORTATION NETWORK & FACILITIES IMPROVEMENTS
PRIORITY 2 PROBLEM LINKAGE
STANDARDIZED SHIPPING CONTAINERS NEEDED
PRIORITY 2 PROBLEM LINKAGE
ASSUMPTION OF RISKS-PERISHABLES IN STORAGE OR IN TRANSIT
PRIORITY 3 PROBLEM LINKAGE
FINANCING CAPITAL IMPROVEMENTS
PRIORITY 3 PROBLEM LINKAGE
PROCESSING TECHNOLOGY IMPROVEMENTS
PRIORITY 3 PROBLEM LINKAGE
EDUCATION & TRAINING CHANGES REQUIRED
RESEARCH & DEVELOPMENT CHANGES REQUIRED

FIGURE 3

U.S. DEPARTMENT OF AGRICULTURE

NEG. BN 37946 FOREIGN ECONOMIC DEVELOPMENT SERVICE

TABLE II
MARKETING SYSTEM IMPROVEMENTS
PROBLEM LINKAGE EXAMPLE – EVALUATION

STORAGE OF PERISHABLES

ADEQUATE LINKAGES

---PERISHABLES STORAGE:
1. Terminal Markets, until 1975.
2. Secondary Markets, until 1974.

---TRANSPORTATION NETWORK:
1. Farm-to-Market Roads, Interior Markets 1,2, & 4.
2. Interior Markets 1,2,4, & 5 Linked by Hard Surface Roads; R.R. Links 4 and 5.

---GRADES AND STANDARDS:
(Informal System Adopted in Terminal & Secondary Markets by Traders Adequate for their Purposes).

---MARKET INFORMATION:
(By word-of-mouth between traders in terminal and secondary markets in interior markets and with farmers; only adequate for some purposes).

---STANDARDIZED SHIPPING CONTAINERS:
1. Used in Interior Market 4 only.

---ASSUMPTIONS OF RISK WHILE PERISHABLES IN STORAGE OR TRANSIT:
1. Adequate in Terminal and Secondary Markets (assumed by large traders having adequate capital).
2. Insurance carried on perishables by truckers and railroad.

INADEQUATE LINKAGES

---PERISHABLES STORAGE:
1. On Farms, 5 Regions.
2. At 5 Regional Assembly Markets.

---TRANSPORTATION NETWORK:
1. Inadequate Farm to Market Roads, Interior Markets 3 & 5
2. Interior Market 3 Isolated from other 4.
3. Lack of Truckers, Interior Market 3.

---GRADES AND STANDARDS:
1. Formal System Needed at all Markets and on Farms; Immediately Needed at Interior Markets.
2. No Legal Basis for Formal System.
3. No Trained Inspectors.

---MARKET INFORMATION
1. Rapid system of gathering and disseminating price and quantity data needed at all market levels.
2. Micro-wave, telex and radio network needed to link interior, terminal and secondary markets.
3. Trained market news gatherers, analysts and reporters needed.

---STANDARDIZED SHIPPING CONTAINERS:
1. Adequacy of types used in interior market 4 need to be evaluated.
2. Needs in all terminal and secondary markets should be evaluated; adoption for use in harvesting on farms evaluated; program implemented.

---FINANCING CAPITAL IMPROVEMENTS:
1. Credit to build storage on farms; by whom; terms of repayment;
2. Financing of Interior Market Facility Constructing by whom, cost and return analyses.

---ASSUMPTION OF RISKS WHILE PERISHABLES IN STORAGE:
1. No warehouse receipts system.
2. No warehouse receipt discounting system.
3. No low cost storage insurance.

---PROCESSING TECHNOLOGY IMPROVEMENTS
1. Raw Products Standards for moisture content, suger content & acidity have not been established.
2. Temperature control humidity control and light exposure standards for raw products in storage not developed.

1. PUBLIC POLICY CHANGES REQUIRED:
   a. Public interior markets enabling legislation.
   b. Warehouse facility construction bond legislation.
   c. Farm to market road construction appropriations.
   d. Grades and standards enabling legislation and inspection service.
   e. Market information service and facilities legislation.

2. EDUCATION AND TRAINING CHANGES REQUIRED
   a. More academic marketing training in colleges.
   b. Technical marketing short courses at the ministry.

3. INSTITUTIONAL CHANGES REQUIRED:
   a. Division of Markets in the Ministry.
   b. Tax incentives to encourage marketing firms to locate in new interior markets.

4. RESEARCH NEEDS:
   a. Quality controls in handling perishable foods.
   b. Cost and return analyses for perishable marketing efficiency changes.

II. Measuring Marketing Performance

A. Clarifying Objectives of the Marketing System:

The methods used to measure marketing performance in an LDC depend on the objectives to be satisfied. The objectives of an industry or a marketing firm are often different from those of society or of a governmental planning organization. The primary objective of the first two might be profit maximization, while that of the latter two might be overall economic development.

Often, societal and firm objectives are in conflict, yet the responsibility of the analyst is to measure how effectively the system and its institutions are performing relative to the objectives.

Many writers feel that the basic objective is to determine practical means of improving agricultural marketing structures and performance in developing countries in the larger interest of accelerating agricultural marketing and total economic development. This formulation implies that there will be both individual and societal gains through growth.

For example, in describing the effects of adopting mechanization of tomato harvesting, a new marketing technology, Schmitz and Seckler talk not only about changes in direct costs and returns to operators, but about social costs and returns. 6/ They conclude that even if the displaced harvesting laborers had been compensated for wage losses, net social returns would have been highly favorable. Analyses of the type they completed show the need for policies designed to distribute the benefits and costs of technological change more equitably and that social scientists properly should be concerned with such measures of benefits and costs.

Questions about what the performance of particular marketing functions should be or should cost, or by whom they should be done, involve socio-economic value judgements.

B. Prices and Margins as Reflections of Costs:

Marketing firms, agencies, institutions, and middlemen are involved in many activities that add utility to the final good or service. Resources are required to perform any of the activities keyed to fulfilling the marketing functions and utilities desired by consumers in the final goods and services. Each of the resources used has its price, since it is an economic good or service. Consequently, each marketing activity has a cost. This is true regardless of who performs the marketing activity; the performing agent may be a middleman, a farmer, a cooperative, a corporation, a government agency, or some other. The question of how much it costs to perform the activity at a given point in time, or under a given set of circumstances, is a factual one; costs can be measured and analyzed with objectivity.

6/ Andrew Schmitz and David Seckler, "Mechanized Agriculture and Social Welfare: The Case of the Tomato Harvester," American Journal of Agricultural Economics, November 1970, pp. 573-574.

Two common measures used to evaluate marketing performance are: (1) the farmer's share of the consumer's food expenditure, and its counterpart, and (2) the gross marketing margin, sometimes called the farm - retail price spread. These statistics are often misunderstood, and consequently, are misused. For example, the gross marketing margin may be low because marketing activities are being carried on at low cost, but the margin may also be low because the marketing system is providing few services.

In Brazil in January 1969, for example, the gross marketing margin for beef was 36 percent of the consumer price; the comparable statistic for meat in the United States was 43 percent during that year. 7/ Personal knowledge of both systems leads to the conclusion that the Brazilian marketing margin for beef is low because the system provides few services.

The question remains, then, whether it is more important that the farmer receives a larger share of the consumer's expenditure, or that the consumer be able to purchase more services. It might also be possible for the farmer's share to remain constant while prices paid by consumers and services provided them are rising.

Thus, objective measurements of prices and margins as reflections of costs become extremely important inputs in marketing efficiency considerations. The costs of performing specific marketing activities must be evaluated on the basis of the prices of the inputs. This is not a particularly difficult compilation for inputs that have known market prices such as labor, containers, raw materials, and the like. Equitable charges for other inputs, such as management and capital, may not be as easily evaluated. The marketing economist turns to concepts such as normal profit, risk factors, and opportunity cost in such evaluations.

The amount of profit charged by a marketing firm to perform a given marketing activity, which is in reality the price or cost of the management and capital inputs used, may seem high on first inspection. That is, as a percent of the consumer price for the service in the final good, or in monetary terms, the profit return might seem high. The question of risk involved must be considered at this point; given the risk factor, the analyst must calculate the opportunity cost of using the management and capital inputs in the given activity. This is based on the opportunity foregone by not using them in their next best alternative use. Stated another way, the calculation must be based on what return could be expected had the management and capital been applied to another activity requiring similar use and similar risk.

Profits in excess of opportunity costs, i.e., in excess of what could be earned in their next best alternative, are extra normal.

7/ Howard L. Steele, Francisco M. Vera-Filho and Robert S. Welsh, Comercialização Agrícola, São Paulo: Editora Atlas, S.A., First Edition, Appendix Table V - 1 and Table V - 3.

They are a source of inefficiency in the marketing system, because they inhibit the flow of scarce resources, and are regressive since the price of the commodity in question is artificially raised. Consequently, more consumer income is spent for the good than would be the case in the absence of the extra normal profits, and total consumer satisfaction is less because other goods desired cannot be demanded with a reduced income.

C. Input-Output Measures for Specific Marketing Functions:

Efficient marketing can be defined as optimization of the input - output ratio. A change that reduces the input costs of performing a particular activity without reducing consumer satisfaction regarding the output of goods or services is clearly an improvement in efficiency. However, a change that reduces costs and consumer satisfaction represents a reduction in marketing efficiency.

This concept of marketing efficiency is usually divided into two different categories: (1) pricing or economic efficiency, and (2) operational or technical efficiency.

- Pricing or economic efficiency

Pricing or economic efficiency is concerned with improving the operations of buying, selling,and pricing aspects of the marketing process so that it will remain responsive to consumer direction. The best measure of the satisfaction consumers obtain from the marketing system's output is what they are willing to pay for it in the marketplace.

However, the reliability of the measure above depends upon three conditions: (1) that consumers are provided with viable alternatives in the marketplace from which to choose, (2) the prices on the alternatives adequately reflect the costs of providing them, and (3) business firms are relatively free to enter or leave the given marketing activity in response to profits or losses based on the prices bid in the marketplace.

If markets are operating efficiently, prices of a given food will be related over space, time, and among forms. Prices should only differ between geographic areas of a country by transportation costs from one point to another. The price of a storable commodity at one point in time should not exceed price in a previous period of time by more than the cost of storage. Similarly, the price of the processed product should only exceed the price of the unprocessed equivalent by the cost of processing.

Suppose the researcher finds that the geographic price difference for an agricultural good at a given point in time in an LDC bears little relationship to transportation cost. Pricing efficiency is low; the question to be answered is "why?" Further research might indicate that it is because of a lack of transportation facilities, poor market information, monopoly profits,or some other institutional or structural weakness.

Therefore, pricing or economic efficiency either relates to functional deficiencies or to the degree of competition or monopoly, and to economic power structure existing within the marketing system. In the latter case, laws may need to be promulgated which grant responsibility to some agency in the society, usually a governmental one, to survey the number of firms serving the market, the ability of firms to enter the market and permit or enhance more effective competition, and to monitor market conduct to prohibit collusion, or other unethical practices which might hurt competitive performance, consumers, or the public in general. These are measures of pricing efficiency.

. Operating or technical efficiency:

In contrast to pricing efficiency, operational (technical) efficiency assumes that the output of goods and services is given, and focuses on reducing the costs of providing them. Thus, the substitution of a less expensive, but more durable and lighter packaging material, increases the amount of finished product storable in existing cubic space and reduces damage and spoilage, all at less cost. Calling on knowledge from diverse disciplines such as engineering, food technology, business management, and economics, food marketing operational efficiency is enhanced, i.e., costs are lowered and the output of products or services remains unchanged.

Marketing firms, operating in a competitive environment, seek to improve operational efficiency. Although their goal may be to enhance a profit position, often the benefits derived from the improved operational activity accrue to society in the form of economies of scale and lower total unit costs. These may be passed on to consumers in the form of lower unit prices and/or shared with producers.

The marketing firm that adopts an improved raw material procurement system by centralizing purchase activities, buying in larger quantities, and taking advantage of unit freight rates is engaging in a practice which may enhance operational efficiency. Similarly, reorganizing sales territories and distributing foods with fewer but larger deliveries per customer per week may have the same effect.

If competition exists, the firm will enhance its aggregate profit position, but because of the operational and pricing efficiencies in force, consumers and producers also benefit since profits are still only normal ones, and efficiencies have been passed on. The area of operating efficiency is one in which both research and technical assistance can make significant contributions to marketing improvement.

D. Product Losses and Waste in Marketing:

Another criterion for evaluating efficiency, although closely related to technological or operational efficiency, is the measurement of physical product losses as a commodity moves through the channel of distribution from producer to ultimate consumer. Just as production efficiency is often measured by yields and physical productivity, so too may marketing efficiency be measured. If, for example, in a developing country out of every 100 bushels of corn that leave farms,

only 60 are finally consumed, on the average, serious barriers to efficient marketing exist in the system. These barriers must be isolated, then removed.

Evaluating criteria may be developed for specific commodities at various stages of the channels of distribution against which performance may be measured. The economic cost of reducing the inefficiency must then be weighed against the benefits to be derived. Such adjustments in systems would only be continued up to the point where the added cost of reducing waste, i.e., in improving performance, is equal to the economic return or benefit to be derived. This assumes a given level of technology, however, and may be modified with the discovery and adoption of new lower cost technologies for improving performance. There are many opportunities for research and technical assistance to help in reducing losses that occur in the marketing channels. This kind of work is likely to have visible near-term benefits in developing countries.

III. ORGANIZING MARKETING REFORMS

Changes in marketing systems are likely to work to the advantage of some and the disadvantage of others, hence there are differences of opinion as to the desirability of change -- whatever its objective merits. Therefore, those who seek reforms are likely to encounter objections and will need to overcome obstacles in order to accomplish their purposes. From the point-of-view of those concerned with effecting reform -- local government officials, private investors, or external aid agencies -- it is not enough to know what changes are needed and should be advocated. They must also know how the changes may be brought about.

A. The Problem of Resistance to Change

. Sources of resistance to reform

Among the most basic obstacles are those arising from vested economic interests in preserving existing marketing arrangements. Thus middlemen who lend farmers the money they need for production and buy the product afterward, as part of a tied arrangement giving them leverage at both ends of the transaction, may object to changes giving farmers other options. A produce merchant operating out of a stall in an old central market with known costs and customers may be reluctant to accept better physical arrangements which may adversely alter the conditions which permit him to eke out an existence.

Vested economic interests are not, by their nature, either bad or wrong, they are simply the attachment people have to known systems by which they make a livelihood and interact with others in the economic community. And the strength of the attachment is not alone a function of how well off the individual may be under the system, but of other factors as well. Nor can the holding of vested interests be brushed aside as being irrational or prejudicial to larger economic interests of a region or nation. For example, the large producers of export crops are rarely interested in expanding the internal national market; they emphasize the value of foreign exchange earnings and hence urge policies to enhance their export potential. The national economy of many areas subsidizes the growth of export crops such as sugar, coffee and bananas and this reinforces the natural resistance to accepting the uncertainties of selling in the internal market. This was the case among sugar growers in Puerto Rico who were, to some extent, displaced by the dairy industry serving the local Puerto Rican market. Cotton and cane growers in the northeast of Brazil are similarly linked to export markets and show little interest in the activities designed to develop internal markets.

One of the most pervasive of problems in bringing about improvements in marketing systems is the lack of information and understanding on the consequences of changes. Even in modern societies with sophisticated approaches to the determination of cause and effect relationships in economic activities, it is difficult to determine consequences beyond the first ripple. In developing countries there is a paucity of basic information on which to determine what the prevailing situation is to establish benchmarks against which changes may be measured. At both the micro and macro level, those needing to make decisions often lack adequate data and the methodology for analyzing what they have. Hence, decisions at both the firm (or farm) level and at the national (or provincial) level are usually made on the basis of what has been before.

Cultural constraints are another factor inhibiting the modernization of marketing systems. From the point-of-view of those concerned with extending development assistance, problems of this kind are particularly difficult to overcome. It is hard to understand the roots of some marketing practices that seem to be part of a culture or how deep and fixed the roots are. For example, the role of the market women in Latin America and in Africa is imbedded in the culture of different regions and tribes, and may go back hundreds of years. Involved may be basic differences in the economic role of men and women in the society.

Cultural factors affect many aspects of a marketing system: the kinds of food that are eaten and the manner in which they are prepared for market and for home consumption; the status value of different foods among different groups or tribes within a country; and the place of traders in the society and those elements which comprise the middlemen strata (e.g., the Chinese in Malaysia). At issue are questions of how much of the cultural constraints should be accepted as "givens" and not subject to change, and how much might be modified. If changes are needed, what might be the most likely means of affecting them? This is an area in which country studies may be most useful.

. Strategies for overcoming resistance

Perhaps the most intriguing discussion on this issue is that by Albert Hirschman. 8/ He describes two different models for analyzing economic reform in developing countries (based on his studies in Latin America): (1) engineering reform by holding up the prospect of revolution (in this approach the possibility of "revolution" as an alternative to"some change" or "no change" is likely to force agreement on the middle course); and (2) engineering reform through logrolling and shifting alliances. In this approach the "reform" is not limited to "some change" but to a number of possibilities, any one of which needs a preponderance of support to take effect. While the analysis presented is in terms of

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8/ Albert Hirschman, Journeys Toward Progress, The Twentieth Century Fund, New York. 1963.

parliamentary voting, the concept may be extended to any situation in which numerous individuals and interests are involved in the decision.

Another means of bringing about marketing reforms is through the deployment of "countervailing power." While used in a different sense by other writers, the term is used here to suggest the organizing of the forces of reform against those resisting change. Sometimes, external assistance is needed to identify forces for change and to make their involvement effective. For example, in establishing a new central market, the forces for the status quo are likely to be most of those operating within the existing market. Those likely to want an improved market may include emergent retailer groups, central government officials concerned with public health and sanitation, local city officials concerned with food prices, and cooperatives of producers (or possibly consumers). Needed is some catalyst to coalesce these groups into an effective countervailing force for reform.

There will be times and situations where the economic power of an individual or group in the market place must be reduced to effect needed reforms and this may mean a reduction in that person's or group's position and profits. In such instances, political means may need to be employed -- either by working through countervailing economic groups or through the governmental process. Hirschman points out that, when changes are being advocated, those who stand to lose by the change may need to be faced with the alternatives in which "some change" with "little loss" is to be preferred to "total change" and "total loss." 9/ What is involved for the "reformmonger" -- whether a local official or external advisor -- is how to delineate the differences and marshal the facts which lead to broad support for a technically acceptable solution.

While recourse to governmental processes may be necessary to bring about change, the government itself may be a major obstacle to reform. The government may hold up or otherwise interfere with changes -- either because those in government who hold the power may side with the economic interests who oppose altering the status quo, or the policy-making process itself tends to slow the tempo of change. Interests which have enjoyed advantages in existent marketing arrangements are likely to have acquired better access to and influence over those who hold power in government. Hence, the inter-connection between economic and political power usually tips the scales in favor of the status quo. In most government systems, the mechanism for making policy usually involves passage of proposals by numerous committees and chambers and retards any

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9/ Ibid.

positive change from emerging. The interests seeking reform must organize sufficient power to get the wheels of change going and maintain pressure over considerable time to see the measures through.

Nevertheless, in most developing countries the government is a principal agent for economic reform -- initiating and facilitating needed changes. Hence, strategies for overcoming inertia and obstacles to reforms in marketing systems need to include government -- its policies, its services, and its regulations. Moreover, such government activities are themselves often basic elements in the modernization of marketing systems. Government policy may, for example, bring about more equitable balances between producers, consumers, and the distributors of agricultural commodities. Government services may facilitate market transactions and the movement of commodities from one part of the country to another. Government regulations may protect the consumer, the producer, and the distributor from the unscrupulous among them, creating a foundation of national confidence essential for developing a national market.

Whether government agencies will take the steps necessary for modernizing a marketing system is likely to depend on their understanding of what needs to be done and their technical competency to do it. Some kinds of policies (e.g., intervention in the pricing system that will create optimum balances between demand and supply of food crops) require sophisticated economic analyses as well as skilled administration. Marketing regulations similarly require economic analyses and administrative capability together with integrity and impartiality. Services need to be widely available and acceptable in order to facilitate rather than inhibit the functioning of larger regional or national markets. These are areas in which technical assistance may be especially useful.

B. The Problem of Employment

An important issue associated with marketing reforms is their impact on employment. Unemployment (and underemployment) is emerging as one of the most critical problems facing many developing countries as new agricultural technology permits (and hastens) the release of more people from farming. 10/

. Effects of added marketing services

In the evolution of marketing systems, more services are demanded by consumers and more supplied by processors and distributors. These added services are a source of employment for many in urban areas and at

10/ See particularly, Eicher, Carl, et al, Employment Generation in African Agriculture, Research Report #9 of Michigan State's Institute of International Agriculture; Robert d'A Shaw, Jobs & Rural Development, Overseas Development Council, Monegraph #3; and the paper by Erik Thorebecke, "Unemployment and Underemployment in the Developing World," presented at the Columbia University Conference on International Economic Development, February, 1970.

all the connecting points in the marketing system. A critical issue in the developing countries is the economic value of the services performed. This determines the cost to consumers and the earnings for those providing the services. The question of economic value involves not only the service performed, e.g., transporting a crate of oranges from truck to retail stall, but how efficiently the service is performed, e.g., does the task take five-man minutes or 20 man-minutes per crate? How efficiently the service is performed may be a function of many factors: how close to the stall can the truck be parked? Is the crate off-loaded by hand or from a mechanical tail gate? Is the quantity purchased by the retail store one crate or several?

Another employment issue raised by changes in marketing systems is where will added services be performed. Rural job opportunities and earnings may be increased by having a part of the marketing function performed close to the place of production. For example, field packing of fruits and vegetables enhances the value of the product as it leaves the farms and this added value is translated into incomes earned by rural workers. At the same time, field packing can reduce the cost of subsequent handling and lessen losses through bruising in the process of transporting. In some instances, field packing may substantially reduce the amount of bulk involved in shipments to market, thereby contributing to lower transportation costs. Studies are needed to determine relative costs and benefits from adding marketing services at different points in the system. Consideration needs to be given to such factors as availability of labor, costs for the labor, and effect on product quality when some services are performed in the producing regions.

Increasing the amount of food processed also contributes to better marketing and more job opportunities in both rural and urban areas. By processing, commodities may be preserved over a long period of time, reducing the incidence of losses in transportation and storage. Processing may also enhance the food value of commodities. The amount of protein and other nutrients can be increased in various ways. Processing may also mean a broader domestic and foreign market for commodities and hence more job opportunities in production as well as distribution.

Where processing makes for fuller utilization of the harvested crops, unit costs may be reduced and labor usage increased. The chemistry of food crops and fiber is now sufficiently advanced to break down traditional crops or parts thereof ...and to rebuild new foods and fiber with different properties. Better use of crops may be obtained by developing new or improved foods for humans, creating feed as part of the rations for livestock and utilizing parts of the commodity for industrial by-products.

. Effects of increased scale on employment in marketing

The factor of scale in marketing activities (both physical and exchange elements) affects employment opportunities as well as efficiency

in marketing systems. A shift from burro to boxcar is a change in scale as well as mode of transport and affects the number of people employed in moving commodities as well as the time taken between farm and market. A change from market stalls selling a few food items to self-service markets selling a wide variety of pre-packaged foods is a change in type of outlet that affects the amount of goods exchanged per man-hour of labor as well as the total number employed in retailing.

Some changes in scale are vital if marketing systems are to move the increased quantities of food from production to consumption centers. For example, in the 1967-68 harvest year in India, some 17 million sales transactions were made in marketing some 18 million tons of grains. If twice that amount of grains comes onto the market five years later, larger unit transactions will be necessary or the marketing system may break down.

Similarly, where increased production of grains permit the establishment of buffer stocks, larger silos may be necessary for storage of the larger carry-over stocks. This in turn, may require bulk handling to reduce risk of commodity exposure at peak harvest periods. While such increases in scale may mean that larger amounts of the commodities may be handled through the channels without increasing employment, traditional hand methods would likely be more costly to objectives other than that of employment. Closer studies of the interrelationship between changes in scale and employment in marketing are needed.

. Effects on employment of hardware purchases

Often, increased scale is accompanied by the use of more equipment and other additions to physical facilities. In many developing countries the equipment is not produced locally but must be imported; this usually requires payment in hard currencies. In these instances, the substitution of capital for labor may not only reduce employment opportunities in the marketing activities affected but may adversely affect other economic development functions. Where there is a surplus of labor and the cost of labor is low, it may be neither good economics for the firm nor for the nation to have capital goods supplant labor. On the other hand, local manufacture of needed equipment, if economically and technically feasible, may be, on balance, acceptable. For example, the use of fork lift trucks in central markets and in warehousing operations could save considerable labor per unit moved. If the fork lift trucks were manufactured in the country, rather than imported, new employment opportunities would be created. And if the savings in labor were reflected in lower unit handling costs and these savings were passed on to workers in the urban areas, their real income would be raised and/or the cost of production in places where they were employed could be held down. Both of these results would contribute to the larger and longer term development prospects of the country. Employment affects of the trade-offs involved in marketing modernization need to be calculated on an individual country and project basis.

C. The Problem of Capital for Marketing Improvements

While the need for infusions of external capital to maintain the economic health of low income countries is widely recognized, the implications for marketing improvements have received scant attention. As economies develop, they characteristically become more heavily monetized. A large share of the money that is injected into a modernized economy is utilized in its marketing system. As incomes and urbanization grow, the proportion of the nation's total credit and currency utilized in the marketing system will increase rapidly because urban populations depend much more heavily upon marketed supplies of food and other consumption goods. Sector development programs, whether rural or industrial, often provide for expansion of credit for production but neglect to add the necessary capital to operate the marketing channel efficiently.

. Operating credit and equity capital

One of the links binding the distribution channel together and making it resistant to change is the credit relationship of buyer and seller. Atomistic retailers use a good deal of credit in their operations. The nature of the credit practices is revealed by the pay-back period and cost of the credit. Research in Recife, Brazil, revealed the high cost to consumers of inefficient retail credit systems. Atomistic retailers operating in street fairs or as itinerant merchants had to pay back their credit in less than one week on the average. This again reflects the nature of the street market, where the operator buys new stock each week or several times a week, and the supplier requires a repayment of the previous debt before he advances credit on a new stock. This short-term credit costs the atomistic retailer from slightly over 100 percent to over 700 percent and this cost is transferred to consumers. The small retailer pays these high credit costs because he has no alternative sources of money and if he cannot get stock to sell, he and his family go hungry. The normal pay-back period for larger self-service retailers is about one month. The cost of that credit, as measured by the interest charge and the price differential if the product had been purchased for cash, was substantially lower. Larger retailers have longer pay-back periods than the atomistic retailers in most cases and pay lower credit costs (99 percent to 175 percent per year). Even these costs, however, are high for those who use credit.11/

Entrepreneurs at other places in the marketing channels are also likely to pay dearly for credit. In part, this is because there has been less experience in financing marketing firms, and lenders have been in stronger bargaining positions than borrowers. Grain mills and other processing plants, central markets, and warehouses are likely to operate in outmoded facilities and use old equipment because of the high cost of modernization. Studies are needed on ways in which more adequate credit at better terms might be made available to food marketing firms and cooperatives.

11/ Charles Slater, Harold Riley and others, Market Processes in the Recife Area of Northeast Brazil, Research Report No. 2, Latin American Studies Center, Michigan State University, East Lansing, Michigan, June 1969, Chapter 5-22 and 5-26.

Perhaps, as greater marketing coordination is achieved, the amount of risk is reduced and financial institutions may be more willing to advance credit and equity capital. The evidence at hand, from studies in several regions of Brazil, suggests a connection between more integrated marketing enterprises and increased capital investments, but it is not clear which factor led and which followed.

A growing marketing system requires not only additional operating capital and credit, but also the equity capital for new and expanded marketing enterprises. National and international lending agencies and local/private sources of capital have been slow to see opportunities in the distribution side of the economy. In part, this has been because traditional equity financing has gone to more tangible enterprises, those in which land and industrial plants have been involved. Behind this customary flow of capital are the economic considerations of return on investments and the amount of risk to the capital committed. Other considerations are linked up with the socio-economic structure of the society and cultural factors in which traders and middlemen are accorded lower (or "outlander") status. There is need for research on ways in which the capital constraint on marketing improvements might be overcome.

- The magnitude and mix of capital requirements

Estimates have been made as to the capital requirements to attain levels of agricultural production deemed necessary to meet population needs. 12/. Similar estimates have not been made for financing the movement of these commodities from producers to consumers. As a larger proportion of total food consumption for both rural and urban populations moves through commercial marketing channels and involves greater distances and time lags between production and consumption, money requirements of the marketing system expand enormously. Studies on capital requirements are needed for both micro and macro decisions and by local country bankers and international lending agencies.

More efficient production and distribution of food supplies is likely to be reflected in lower consumer prices. Since there are large unmet food needs among the poor in developing countries, the result is likely to mean substantially increased demand. Hence, the levels of stabilizing stocks need to be proportionately larger or LDC's face recurrent human and economic distress of widely fluctuating prices on basic food commodities. Few developing countries have estimates of the cost of maintaining stocks of basic food crops adequate to assure price and supply stability. Such stocks would require not only the capital for storage and warehouse facilities but also the extended credit to cover inventories at different stages in the channels. The amount and cost of such credit, whether utilized by public or private agencies, needs to be assessed and provisions made for it in overall development policies.

12/ Report of the President's Science Advisory Committee, May 1967, Vol.I., The World Food Problem, p. 103.

Since a large proportion of the total capital required for improvements in marketing in developing societies is utilized as rotating credit to monetize the economy and to monetize the market system, a relatively small proportion of the total capital required needs to be in foreign exchange. Foreign exchange is often needed for technical assistance and some special equipment for processing and communication functions. Consideration needs to be given to the mix of external funding -- that by public and private institutions and the terms under which loans are made for marketing improvements. However, relatively little of the total needs will involve foreign exchange. Domestic currencies will meet much of the financing needs in both public and private sectors. Too often the public sector gets support when the private sector activities need similar financial encouragement and support.

Financing of efficient facilities to carry out expanded retailing, wholesaling, processing, and transporting activities is needed in many developing countries. High priority needs to be accorded for new fiscal policies and institutional arrangements to increase capital and credit availability. This is an area in which both research and technical assistance are needed.

D. Nutrition and Non-Commercial Food Distribution

In most developing countries, a substantial portion of the total population buys little food in the commercial markets. The population groups on the periphery of the market include rural workers, subsistence farmers, the shanty-town families in which unemployment is the characteristic condition, the street waifs of all ages, and the many with physical and mental disabilities that limit regular employment. Improvements in the commercial marketing system have little effect on the diets of these people. But public and private officials in the developing countries concerned with food for the people, and their external advisors, ought not to overlook the large numbers who exist at the edge of the market, and often suffer serious malnutrition.

The meaning of malnutrition for economic development as well as human suffering has been documented by many studies in recent years. 13/ It is now known that people who are malnourished have lower physical and mental energies, and are less capable of performing effectively on their jobs or in their schools. Young people who are malnourished may be physically and mentally retarded for the rest of their lives and may remain poorly productive members of the economic community. The high death rate for young children and the debilitating illnesses that occur in the period immediately following a child's weaning are often traced to malnutrition.

The problems of malnutrition are usually treated outside the discussions of marketing systems and most often in the context of protein deficiencies or other specific shortcomings in diets. Here the focus is on the larger problem of all who are on the edge of the commercial market and who do not have the means to purchase a minimally adequate diet.

There are both socio-economic problems and physical-technical problems associated with efforts to bridge the purchasing power gap. The socio-economic questions include efforts to change the income-food-price relationship by measures aimed specifically to accomplish either or both these objectives. The issue of raising incomes-- whether directly, through some income supplementing measures to enable the poor to buy more food, or indirectly, through overall economic development--is largely outside the range of this report. But the large number of malnourished would argue for including in marketing studies possible actions to alter the price of food to those with inadequate incomes.

13/ See A. M. Altschul, Proteins: Their Chemistry & Politics, Basic Books, 1965; A.M. Altschul, "Toward the Elimination of Hunger & Malnutrition," Food Technology, Vol. 24, 1970; L. Witt, "A Program of Research on Food for Peace," Michigan State U., 1966, Vol. II, pp. 203-212; White House Conference on Food Nutrition & Health, 1969, Final Report, pp. 37-65; The World Food Problem, Report of the President's Science Advisory Committee, 1967, Vol. I, pp. 11-23 and 42-79 and Vol. II, pp. 310-314.

Other socio-economic problems are related to the cost of some subsidized food aid and how it will be paid for. Food distribution programs represent a direct transfer of incomes from the more affluent to the most needy. In developing countries, the proportions are so skewed that, even if the well-to-do were to give up a large proportion of current incomes, the sums would cover only a small proportion of those in need. But in many developing countries, tax policies and the administration of them do not make significant income transfers and, without basic changes in such policies, there is little that can be publicly financed. It may be anticipated that, as agricultural productivity and production increase, tax policies may be introduced to recapture some of the increased incomes of larger commercial farmers, and these may then defray the costs of a commodity stabilization program with an internal food aid component. The possibilities of such programs vary widely among the developing countries and would be closely associated with the ideological and political underpinnings of the government. The costs and benefits of such supplementary marketings need to be studied for possible government policies as production of basic food crops increase.

Another economic problem has to do with the existing commercial structure and the need to insulate it from a public or subsidized food distribution program in order to avoid unfair competitive pressure on the private sector. The means of doing so in urban centers where many in the populace may be recipients of a distribution program and a great many more would like to be requires careful study. Developing countries are using a number of dual-pricing arrangements and control over retail outlets as means of modifying commercial distribution systems in the interests of the poor.

Price discrimination or a deliberate stratification of the market for the benefit of the poor is not new. In many developing countries retail prices of a few basic grains are fixed by government agencies. Since these grains are the mainstay of poor people's diets, they may be enabled to purchase a little more of the calories they need with the incomes they have. In other countries, e.g., Costa Rica, a government agency operates price-fixed stores and these are operated mostly in the poorer sections of the city. In other instances, e.g., Ecuador, such stores are provided with a supply of basic foods such as cereals, cooking oil, sugar, and salt to be distributed at less than commercial prices, for as long as quantities last. Since these supplies are not adequate for all who want them, the assumption may be that the most needy will come early to wait in line for such rations. There has been little study on how efficient these methods have been in getting more food into the hands of those in need. And where government stores have been in competition with private, it is not known

whether they have had an inhibiting effect on the growth of private retail operators.

There are several potential ways to improve nutrition from a supply point of view: (1) adjustments in the type and quantity of agricultural production, (2) fortification of traditional products, (3) manufactured production of more nutritious food products or blends, and (4) distribution of products made available by foreign nations and international organizations. Various combinations of the above and other alternatives are possible. How is a country to allocate scarce resources among them? This question is not easily answered. 14/

The concept of delivery systems and target populations is important in developing efficient food distribution programs. Each target population group -- school children, nursing mothers, unemployed workers -- require a somewhat different delivery system and perhaps a different composition of foods. Study is needed on alternatives in each case and the alternatives need to be weighed in terms of cost of the food and of the delivery system and secondary effects of the arrangements made. For example, a food distribution project in Northeast Brazil was coupled with a weekly allowance of flour, oil, and dry powdered milk to adults attending a learning-to-read program. Distributions were made on the third evening class each week based on attendance at all three sessions. The adults could justify their attendance by the rations "earned" as well as by learning to read and attendance was kept high. The project was handled by an international voluntary agency in cooperation with its local affiliate.

Various types of feeding programs have been tried under auspices of the U.S. PL 480 legislation and the U.N. World Food Program. The issues involved have been cogently discussed in the study directed by Dr. Witt. 15/ His report includes suggestions for needed research. There has been a particular lack and there is a particular need for studies on the economics of feeding programs and on the factors which limit wider application among the lowest income countries. It is possible that foreign food donation programs could be modified so that more nutritious foods are provided at no additional cost to the LDC. Fortification of wheat might be the most feasible of alternatives. Wheat flour provided by America under PL 480 Title II, including donations through the World Food Program, is enriched and partially fortified; possibly arrangements

14/ These matters, as well as others relating to demand, are discussed by Dana G. Dalrymple in Economic Aspects of Nutrition Improvement in Tunisia, FEDR-6, U.S. Department of Agriculture, Foreign Economic Development Service, July 1970, 54 pp. Further detail on fortification is provided in Daniel Rosenfield, Lyle Schertz, and Stanley Gershoff, Possibilities for Cereal Fortification: East Pakistan, FEDR-3, U.S. Department of Agriculture, Foreign Economic Development Service, March 1970, 34 pp. Both studies were conducted in cooperation with AID.

15/ Witt, op. cit.

could be made to also include protein additives. Other donors might do likewise.

In any society, there are certain groups most in need of improved nutrition. The critical groups in terms of nutrient quality are generally thought to be expectant and nursing mothers, and newborn and young children. Much of the rest of society could use improved nutrition, but their needs may be more quantitative (caloric) in nature and are often considered less crucial.

In terms of resource allocation, would it be better to (a) try to meet the needs of the critical groups first, through products such as weaning foods, and then move to the rest of society, or (b) establish a broad-scale program, such as fortification, first and then subsequently concentrate on any further special requirements of the critical groups.16/ The former approach is traditionally used, though some question might be raised as to whether the process ever goes beyond the critical group. Selection of the most appropriate policy would depend on a number of factors.

Time and cost are important factors. Fortification of wheat could be done quickly and with a minimum disruption of consumption patterns. Similarly, highly nutritious existing products such as nonfat dry milk could also be readily provided through distribution and consumption patterns. The other approaches, such as shifts in production patterns or the development and adoption of new products, would generally take longer. And improvement in nutrition through increased incomes made possible by economic development is, at best, a long-term prospect. A related question concerns cost. A mass program is not necessarily more expensive than a selective one. The AID Mission in India has concluded that it was not. The main reason centers about the differing costs of the delivery system. It is no more expensive to deliver fortified wheat than regular wheat. On the other hand, the cost of moving a specialized product to a certain group may be considerably higher because of handling or distribution requirements.

Many considerations have to be taken into account in making policy decisions on the type of approach which will best meet a country's needs and resources. But clearly, the marketing specialist, the food technologist, and the nutritionist need to work together in shaping these policies and the programs to implement them. The improvement of nutrition is a multifaceted task which includes issues of public policy, crop genetics, and food technology as well as physical distribution procedures.

16/ Specific issues relating to protein are reviewed by: Lyle P. Schertz in The Economics of Protein Strategies, U.S. Department of Agriculture, Foreign Economic Development Service, FEDS Staff Paper 3, December 1970, 8 pp.; and Patrick J. Francois, "Effects of Income Projection on the Protein Structure of the Diet," Nutrition Newsletter (FAO), October-December 1969, pp. 1-15.

E. Human and Institutional Capability:

Marketing activities are performed by individuals working within the framework of many and varied institutions. The institutions give form and continuity to the individual actions and to the overall marketing process. Often marketing institution growth in developing countries lags behind other programs, even where capital is readily available for marketing institutions, because trained personnel are not available to help staff facilities and to implement marketing programs.

As marketing institutions become more complex -- taking on more activities over larger geographical areas, involving more products and people as well as capital-- the task of management grows more difficult. In most developing countries, there has been little training in specific marketing functions or in the management of agribusiness firms performing them. This is an area in which technical assistance can be useful and should have high priority.

Some have called this upgrading human capital inputs in developing countries. It is a necessary adjunct to other capital inputs designed to improve marketing institutions and performance. Marketing institutions mean different things to different people: a commodity stabilization agency ; an export marketing board; a supermarket chain; the system of wholesaling and retailing; the central market in a village; or the arrangement between farmer and the rice miller. Marketing institutions are only as effective in a distribution system as are the people involved in their operation and management.

In most instances, the working of these institutions can be improved and their functions performed more efficiently. However, institutions and the individuals directing them tend to resist changes. Government agencies that might (and should) be concerned with marketing reforms are slow to take on a more positive role; private entrepreneurs tend to avoid the risks of uncertain innovations. As in the production of crops, so in their distribution, the likelihood of rewards need to be enhanced and risk of losses reduced in order to encourage changes to take place in the marketing system. In many countries, a first step in improving the operation of marketing institutions is a better understanding of marketing functions and how the activity of individual institutions is linked to others in the marketing system. It may well be that upgrading of human skills and capabilities in LDC's is the biggest need of the 70's and 80's. The shortage of human capital in the marketing systems in developing countries is in two areas:

1. a sufficient pool of technically-trained people to handle problem identification and policy implication studies; and

2. a mass of individuals with operational and management capabilities to perform the functions essential for the efficient operation of marketing and agri-business institutions of all kinds.

. The private sector

In most countries and at all stages of development in marketing systems, domestic trade in agricultural commodities is carried on in the private sector. At early stages of development, private traders are small and cover relatively small geographic areas and each performs a limited number of marketing functions. At later stages, integrated marketing enterprises are organized to perform more functions over wider areas. The role of private enterprise in stimulating marketing reforms and the conditions under which it may be an effective change agent need to be studied in a number of representative countries.

The amount of earnings that accrue to different individuals or groups in the marketing process depends on what function they perform, how efficiently it is done, and what their bargaining position is in the transaction. Organizing to perform a marketing activity can improve the individual's position in all three respects. Several marketing functions may be integrated or coordinated in order to improve operating efficiency and an individual's position in the marketplace. Organizations that increase the efficiency of marketing operations can hold down overall marketing costs and hence may benefit producers, consumers, or both.

Producer organizations with special concern for marketing are prevalent in most countries. For many years, most producer organizations were made up of large commercial enterprises principally concerned with traditional export commodities such as coffee, tea, sugar, rubber, and bananas. In recent years, smaller farmers have also been organizing to improve their marketing strength. Small farmers have joined together in cooperatives to perform some of the marketing functions themselves, and to win better prices for their products going to market.

Cooperatives may contribute to improved marketing by their members in several ways: (1) performing basic marketing functions such as transporting, milling, grading, and conditioning; (2) helping members improve their farming so they may produce more or higher quality products; (3) providing market information and guidance to help members know when it is in their interest to produce more or less of a commodity; and (4) undertaking or contracting for activities to protect and promote commodity development such as spraying against insects or conducting research on industrial uses of a commodity. The number of functions that may be performed and the effectiveness of a cooperative's operation depends on the quality of its management and the cooperation of the membership.

From the point-of-view of marketing efficiency, organizations of small marketers are also useful. Through joint efforts, marketers may integrate and coordinate different marketing functions and secure economies of scale. The small size of most retail operations in developing countries makes cooperative associations of food retailers particularly important. A group of retailers in a city may operate their own warehouse and distribution center. Assured of a significant volume of business, favorable arrangements may be worked out with food processors and importers and

production agreements made with farmers or their associations. Operating their own warehouse, retailers may substantially reduce the usually heavy costs for wholesaler-retailer salesmen and extended credit.

In principal cities of a number of developing countries, retail food chains have emerged and are becoming an increasingly important part of the marketing scene. Some writers on marketing in developing countries have suggested that supermarket chains are an important force in modernizing overall marketing processes.17/ The case of Puerto Rico is often cited in support of this contention; in that country the supermarkets did affect the entire food marketing process. It is not clear, however, whether the Puerto Rico case, with its special U.S. linkages, can serve as a model for other developing countries. There is need for studies to determine when in the development process supermarkets might be appropriately introduced.

. The public sector

There are some situations and kinds of marketing activities for which a government or quasi-government organization may be most appropriate. Because the supply and price of food is so vital to so many, governments have often intervened in food marketing systems. Such interventions have been direct, as in operating a seed supply system or retail food stores, or indirect, as with policies influencing private firms engaged in these kinds of activities. Despite intervention by government agencies, marketing operations are performed largely by private firms, farmers, or farm organizations. Where profits accrue to the more efficient and enterprising, the pursuit of gains stimulates efforts to improve market performance. Private enterprise, however, cannot function effectively in marketing (or in farming or industry) without supporting policies and services of public agencies.

Public policies may encourage and facilitate efficient marketing operations or impede them. Sometimes government officials are not aware of how rules or regulations get in the way of economic activities they wish to encourage. Old laws may remain on the books to be invoked in an arbitrary manner by some self-seeking petty official. One government agency may seek modernization of food marketing, but another may set import regulations that prevent firms from acquiring refrigeration equipment for retail stores or wholesale warehouses. Or regulations governing the import of packaging materials may make it more difficult and more costly to obtain wider distribution of fresh or processed produce. Agreement may be reached with a Ministry of Commerce and Development on building a new food processing plant, but another Ministry may make it inoperative when built by failing to fulfill commitments on access roads. Private marketing firms report that uncertainty and the arbitrary rendering of decisions as much as the substantive nature of public policies impede their progress.

17/ Harold Riley, et al, Food Marketing in the Economic Development of Puerto Rico, Michigan State University Latin American Studies Center, Research Report No. 4, July 1970, Chapter 9.

Studies are needed on the relationship between public policies and the response of private traders in providing marketing services and the specific policies or services needed to encourage more enterprise in marketing systems.

Public services include the essential infrastructure such as farm-to-market roads, railways and highways, ports and dock facilities. Less visible services that need to be provided by agencies of the government include basic statistical and economic data for domestic and overseas market analyses; the collection and dissemination of authoritative and timely market intelligence; establishment of grades and standards and the mechanics for enforcing adherence to rules and norms in the marketing system; and some forms of assistance for small marketers.

Among services that government might help provide in order to improve the functioning of marketing institutions are technical assistance and training -- particularly for the small firm. Such programs might well be organized in cooperation with indigenous or foreign trade associations of a professional or technical nature. Among the kinds of technicians likely to be needed are engineers, food chemists, marketing economists, and trade and transportation specialists. Few developing countries have technically qualified personnel to provide such services and most firms are too small to pay commercial rates for them. Hence there is need to organize some collaborative effort between government agencies, international technical assistance organizations, and private groups.

Another important area of government services is that prescribing the rules of operation of marketing institutions endowed with a "public interest." Thus, public warehouses providing storage for all on a commercial basis, and terminal produce markets, serving as the principal collection and distribution point for a city's perishable foods, need to have operating "norms" which meet the interests of all parties concerned. The interdependence of people and of parts in the marketing system means that norms of business behavior, like oil in machinery, can help protect the moving parts and assure a smoother overall operation.

The range and complexity of services needed to support an efficient marketing system require more resources than most developing countries have thus far allocated for this purpose. Performing the services requires more personnel trained in marketing and related fields than are now available in these countries. Because of the constraints of money and manpower, only the more urgently needed marketing services may be possible. But, consideration needs to be given to increasing the resources made available for these services and in a greater order of magnitude than the growth in commodity production. The provision of marketing services is an essential part of marketing improvements and, in turn, contributes to other improvements in the system.

IV. The Role of Research and Technical Assistance

Research and technical assistance for the improvement of marketing are closely related. Each may follow after the other, and each is likely to contribute to the value of the other. Research should provide information and analysis on which micro and macro decisions on marketing activities might be made. Technical assistance specialists, having responsibility for helping in the decision-making process, look to the information that is available, and where inadequate, may provide the stimulus and direction for needed studies.

Technical assistance and research on marketing can provide new insights and impetus, not only for agricultural development but also for linking gains in agriculture to other sectors of the economy. Marketing is not a passive adjunct to production but a motive force in the development process. Marketing systems are key elements in many of the problems that emerge as developing countries move from traditional to commercial agriculture: rural incomes and migration; export earnings and import substitution; the cost of food (and hence the standard-of-living) for urban workers; crop diversification and market development; employment and incomes in service occupations; agri-business; and new product development. Horizons for research and technical assistance need to be lifted to encompass the whole range of rural-urban relations as well as the specifics of commodity marketings.

A. Technical Assistance

Several specific functions may be performed under the heading of "technical assistance." In each instance, the process is one of working with and through local people for the accomplishment of agreed upon development purposes. The purposes are likely to have both long-term and short-term dimensions and may change over time within the same country. But in most general terms, technical assistance is concerned with building individual and institutional capability to deal with their problems. This capability includes both the formulation of problems and the implementaiton of policies and programs to resolve them.

Those performing technical assistance, therefore, help in identifying problems which may be obstructing economic growth and country development. Identification also implies a formulation of the problem in terms making it more susceptible to solution. Breimyer analyzed various economic considerations in choosing possible marketing policies in Guatemala.[18/] He concluded that marketing costs in that country have increased because of structural deficiencies, probably due to the absence of competition, the presence of collusion, and restrictions imposed by various agencies. He emphasized the benefits to be derived from improved market news, including improved statistical data collection, the need for usury laws, and other suggested improvements.

18/ Harold F. Breimyer, Further Comments on Economic Considerations in Choosing Marketing Policies, a USDA/USAID publication, August, 1965.

Another aspect of problem-solving often requiring technical assistance is that of analyzing the choices available to public or private agencies for dealing with a problem. There is a tendency for seeing solutions to problems in too limited a perspective; an external point-of-view can often help identify additional alternatives. The criteria for choosing among the alternatives identified may include political and social as well as economic considerations, even though the technician advising on economic policy may be limited primarily to an assessment of economic factors. Studies may be needed to quantify information and to measure costs and benefits in order to better assess alternatives.

Technical assistance may perform its function of upgrading human resources in a number of ways. A training function is performed in working with counterparts. Since technical assistance is not so much a "doing" as it is a "working with" and "working through" others, the process involves a learning on both sides. The technician who consciously and purposely sees his role as enhancing the learning experience for counterparts can be a very effective teacher.

Technical assistance may be used in a number of other training situations. Helping in the organization and conduct of workshops and of in-service training courses for officials of host governments are especially important. Technicians may also usefully be involved in the selection of participants for regular training programs in the United States, in the host country, or in third countries. The technician is in a better position than others to know which people with whom he works could benefit from training and what kinds of educational experience would be most appropriate.

Technical assistance is particularly important in institution-building. Institutions are no less important in achieving marketing improvements than in other facets of economic development. Because institutions performing marketing functions are in a rudimentary stage in many countries, technical assistance is particularly important in helping give them structure, purpose, and technical competency.

B. Research in Marketing

Many kinds of research are needed as more modern marketing systems evolve. Research is necessary for policy makers in government agencies and in private enterprises, and it is necessary to improve the utility of new marketing facilities and enhance the value of marketing services. Among the substantive kinds of research that are needed as marketing activities become more specialized and marketing systems become more complex are: 19/

19/ Martin Kriesberg, "Food Distribution Research for Developing Countries," paper presented at the Food Distribution Research Society annual meeting, October 26, 1970, at St. Louis.

(1) Research on market structure and marketing systems; e.g., how marketing functions are organized; where the locus of power is in the systems.

(2) Research on marketing mechanics and operating efficiency; e.g., how are marketing functions carried out --what are possibilities for increasing efficiency.

(3) Research on human nutrition and consumer economics; knowledge of consumer needs helps marketers satisfy them.

(4) Research on the management of marketing enterprises; e.g., how can decisions at the firm level be improved; how can marketing functions be better coordinated.

(5) Research for market expansion; e.g., what is the range of market demand for current and prospective crops; how can markets be expanded.

A substantial part of the kind of research suggested above would probably need to be included in the activities performed by government agencies to facilitate market reforms and to improve the effectiveness of marketing systems. Little of this kind of research has been done in developing countries and the work that has, has been largely for traditional export crops like coffee and bananas. As food crops acquire commercial importance and marketing emerges as a limiting factor for sustained growth, the need for research to meet marketing problems becomes evident.

An important role for research is to provide better understanding of what takes place in the marketing system. This understanding is not an end in itself, but a prerequisite to judgments on how the system might be improved. An analysis of market structure, "who does what, how often, for how much and why" may help explain what is observable in the system and also help expose what is wrong with it.

As studies in marketing provide new insights on the purposes and processes of marketing functions, it becomes possible to measure their performance. This is another important role of research. Research is needed to delineate measures of performance and, insofar as possible, to help quantify them.

Marketing is a dynamic process; the micro and macro decisions need constant review and evaluation in the light of changing economic conditions and overall economic policies. Both research and technical assistance contribute to these changes and, at the same time, these changes need to be taken into account in setting priorities for the research and technical assistance efforts.

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